

M.W.J. PRODUCING COMPANY
SAUNDERS WELL #16
LEA COUNTY, NEW MEXICO
TRI-SERVICE RIG #3
DATE OF REPORT: 09-20-87

GYROSCOPIC SURVEY/SINGLESHOOTS
DECLINATION; 10° EAST (TRUE)
PROPOSED DIRECTION; N 45 E

JOB NUMBER; 09087114, 09-20-87

SURVEYOR; LENN BENNETT

File Name: 09087114

*** RECORD OF SURVEY ***
Calculated by Sii DATADRIL's C.A.D.D.S. System

All Angles are Decimal									
Vertical Section Plane: N 45.00 E									
TYPE OF SURVEY	MEASURED DEPTH (FT)	INCL ANGLE (DEG)	D R I F T DIRECTION (DEG)	COURSE LENGTH (FT)	TOTAL VERTICAL DEPTH	T O T A L RECTANGULAR COORDINATES (FT)		VERTICAL SECTION (FT)	DOGLEG SEVERITY (DEG/100')
GMS	0.00	9.00	N 0.00 E	0.00	0.00	0.00 N	0.00 E	0.00	0.00
GMS	100.00	.25	N 34.39 W	100.00	100.00	.18 N	.12 W	.04	.25
GMS	200.00	.25	N 37.44 W	100.00	200.00	.53 N	.38 W	.11	.01
GMS	300.00	.25	N 32.50 E	100.00	300.00	.94 N	.40 W	.39	.29
GMS	400.00	.50	N 22.45 E	100.00	400.00	1.52 N	.10 W	1.01	.26
GMS	500.00	.50	N 9.61 W	100.00	499.99	2.38 N	0.00 E	1.68	.28
GMS	600.00	.50	N 28.64 W	100.00	599.99	3.20 N	.28 W	2.06	.17
GMS	700.00	.25	N 27.65 W	100.00	699.99	3.78 N	.59 W	2.25	.25
GMS	800.00	0.00	N 0.00 E	100.00	799.99	3.97 N	.69 W	2.32	.25
GMS	900.00	0.00	N 0.00 E	100.00	899.99	3.97 N	.69 W	2.32	0.00
GMS	1000.00	.25	N 70.66 W	100.00	999.99	4.04 N	.90 W	2.22	.25
GMS	1100.00	.25	N 9.67 W	100.00	1099.98	4.36 N	1.17 W	2.26	.25
GMS	1200.00	.25	S 3.33 W	100.00	1199.98	4.34 N	1.46 W	2.04	.50
GMS	1300.00	0.00	N 0.00 E	100.00	1299.98	4.13 N	1.48 W	1.87	.25
GMS	1400.00	.25	N 21.71 W	100.00	1399.98	4.33 N	1.56 W	1.96	.25
GMS	1500.00	.50	N 59.72 W	100.00	1499.98	4.62 N	1.98 W	2.01	.74
GMS	1600.00	.50	S 34.28 W	100.00	1599.98	4.78 N	2.80 W	1.40	.54
GMS	1700.00	.50	N 62.73 W	100.00	1699.97	4.72 N	3.63 W	.77	.52
GMS	1800.00	1.00	N 75.73 W	100.00	1799.96	5.18 N	4.85 W	.23	.53
GMS	1900.00	.75	N 62.74 W	100.00	1899.95	5.72 N	6.27 W	-.39	.32
GMS	2000.00	1.00	N 62.74 W	100.00	1999.94	6.42 N	7.65 W	-.86	.25

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GMS	2100.00	.75	N 87.62 W	100.00	2099.93	6.81 N	9.10 W	-1.62	.45
GMS	2200.00	.50	N 28.38 W	100.00	2199.92	7.36 N	9.98 W	-1.85	.65
GMS	2300.00	.75	N 64.14 W	100.00	2299.92	8.10 N	10.76 W	-1.88	.45
GMS	2400.00	.25	N 68.89 W	100.00	2399.91	8.45 N	11.56 W	-2.20	.50
GMS	2500.00	.50	N 41.65 W	100.00	2499.91	8.82 N	12.09 W	-2.31	.30
GMS	2600.00	.50	N 46.40 W	100.00	2599.91	9.44 N	12.70 W	-2.30	.04
GMS	2700.00	.75	N 30.16 W	100.00	2699.90	10.30 N	13.37 W	-2.17	.30
GMS	2800.00	1.00	N 71.69 W	100.00	2799.89	11.24 N	14.53 W	-2.33	.66
GMS	2900.00	.75	N 49.44 W	100.00	2899.88	11.99 N	15.85 W	-2.73	.42
GMS	3000.00	.50	N 66.20 W	100.00	2999.87	12.56 N	16.77 W	-2.97	.31
GMS	3100.00	.50	N 32.96 W	100.00	3099.87	13.12 N	17.42 W	-3.04	.29
GMS	3200.00	.50	N 73.29 E	100.00	3199.86	13.83 N	17.17 W	-2.56	.80
GMS	3300.00	0.00	N 0.00 E	100.00	3299.86	13.95 N	16.75 W	-1.98	.50
GMS	3400.00	.25	N 25.78 E	100.00	3399.86	14.15 N	16.65 W	-1.77	.25
GMS	3500.00	.50	N 47.02 E	100.00	3499.86	14.67 N	16.27 W	-1.13	.28
GMS	3600.00	.50	S 47.88 E	100.00	3599.86	14.68 N	15.47 W	-.56	.68
GMS	3700.00	.25	S 24.06 W	100.00	3699.85	14.08 N	15.35 W	-.89	.48
GMS	3800.00	.50	S 17.99 E	100.00	3799.85	13.44 N	15.38 W	-1.37	.36
GMS	3900.00	.50	S 37.95 W	100.00	3899.85	12.62 N	15.53 W	-2.06	.47
GMS	4000.00	.25	S 35.16 E	100.00	3999.85	12.01 N	15.54 W	-2.50	.49
GMS	4100.00	.25	S 23.16 E	100.00	4099.84	11.63 N	15.33 W	-2.62	.05
GMS	4200.00	.25	S 52.22 E	100.00	4199.84	11.28 N	15.06 W	-2.67	.13
GMS	4300.00	.75	S 52.55 E	100.00	4299.84	10.75 N	14.37 W	-2.56	.50
GMS	4400.00	.50	S 80.60 E	100.00	4399.83	10.32 N	13.38 W	-2.16	.39
GMS	4500.00	.75	S 26.66 E	100.00	4499.83	9.70 N	12.54 W	-2.01	.61
GMS	4600.00	.75	S 45.71 E	100.00	4599.82	8.65 N	11.77 W	-2.21	.25
GMS	4700.00	.25	S 18.77 E	100.00	4699.81	7.92 N	11.31 W	-2.40	.54
GMS	4800.00	.50	S 2.83 E	100.00	4799.81	7.27 N	11.18 W	-2.76	.27
GMS	4900.00	0.00	N 0.00 E	100.00	4899.81	6.84 N	11.16 W	-3.06	.50
GMS	5000.00	.25	S 23.94 E	100.00	4999.81	6.64 N	11.07 W	-3.14	.25
GMS	5100.00	.50	S 24.06 W	100.00	5099.81	6.00 N	11.07 W	-3.59	.38
GMS	5200.00	.50	S 64.90 E	100.00	5199.80	5.27 N	10.80 W	-3.91	.70
GMS	5300.00	.25	S 83.85 E	100.00	5299.80	5.09 N	10.17 W	-3.59	.28

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GMS	5400.00	.50	S 27.19 W	100.00	5399.80	4.60 N	9.91 W	-3.75	.63
GMS	5500.00	.25	S 53.76 E	100.00	5499.80	4.02 N	9.76 W	-4.06	.53
GMS	5600.00	.25	S 89.28 W	100.00	5599.80	3.71 N	9.85 W	-4.35	.48
GMS	5700.00	.50	S 2.63 E	100.00	5699.79	3.28 N	10.26 W	-4.93	.57
MSS	5733.00	.50	S 67.00 W	33.00	5732.79	3.05 N	10.40 W	-5.20	1.73
MSS	5765.00	1.00	N 20.00 E	32.00	5764.79	3.28 N	10.64 W	-5.21	4.34
MSS	5794.00	2.25	N 28.00 E	29.00	5793.78	4.03 N	10.31 W	-4.44	4.37
MSS	5825.00	2.75	N 45.00 E	31.00	5824.75	5.11 N	9.51 W	-3.11	2.87
MSS	5856.00	5.25	N 46.00 E	31.00	5855.67	6.63 N	7.96 W	-.95	8.07
MSS	5910.00	7.00	N 45.00 E	54.00	5909.36	10.66 N	3.85 W	4.32	3.25
MSS	5971.00	8.00	N 46.00 E	61.00	5969.84	16.25 N	1.82 E	12.78	1.65
MSS	6032.00	8.00	N 47.00 E	61.00	6030.24	22.09 N	7.98 E	21.26	.23
MSS	6095.00	8.25	N 48.00 E	63.00	6092.61	28.10 N	14.55 E	30.16	.46
MSS	6188.00	8.25	N 45.00 E	93.00	6184.65	36.95 N	24.54 E	43.46	.15
MSS	6249.00	8.25	N 48.00 E	61.00	6245.02	42.75 N	31.10 E	52.22	.24
MSS	6340.00	8.50	N 49.00 E	91.00	6335.05	51.53 N	41.02 E	65.44	.32
MSS	6463.00	9.00	N 44.00 E	123.00	6456.62	64.40 N	54.59 E	84.14	.74
MSS	6566.00	9.00	N 40.00 E	103.00	6558.35	76.38 N	65.37 E	100.23	.61
MSS	6648.00	9.25	N 35.00 E	82.00	6639.31	86.69 N	73.29 E	113.12	1.01
MSS	6707.00	9.50	N 34.00 E	59.00	6697.52	94.61 N	78.73 E	122.57	.51
MSS	6769.00	9.75	N 34.00 E	62.00	6758.65	103.20 N	84.53 E	132.75	.40
MSS	6832.00	10.50	N 33.00 E	63.00	6820.67	112.44 N	90.64 E	143.60	1.22
MSS	6893.00	10.75	N 28.00 E	61.00	6880.62	122.13 N	96.35 E	154.48	1.57
MSS	6954.00	11.25	N 30.00 E	61.00	6940.50	132.31 N	101.99 E	165.57	1.03
MSS	7015.00	11.60	N 26.00 E	61.00	7000.35	142.70 N	107.51 E	176.92	1.33
MSS	7045.00	11.00	N 26.00 E	30.00	7029.80	147.84 N	110.02 E	182.34	0.00
MSS	7112.00	10.75	N 30.00 E	67.00	7095.60	159.00 N	115.95 E	194.42	1.19
MSS	7172.00	10.00	N 29.00 E	60.00	7154.62	168.41 N	121.28 E	204.34	1.29
MSS	7233.00	9.25	N 30.00 E	61.00	7214.76	177.28 N	126.30 E	214.66	1.26
MSS	7294.00	9.00	N 27.00 E	61.00	7274.99	185.78 N	130.91 E	223.94	.68
MSS	7324.00	9.00	N 30.00 E	30.00	7304.62	189.91 N	133.15 E	228.44	1.56
MSS	7386.00	8.75	N 29.00 E	62.00	7365.88	198.23 N	137.86 E	237.65	.47
MSS	7446.00	8.00	N 27.00 E	60.00	7425.24	205.95 N	141.96 E	246.01	1.34

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TYPE OF SURVEY	MEASURED DEPTH (FT)	INCL ANGLE (DEG)	D R I F T DIRECTION (DEG)	COURSE LENGTH (FT)	TOTAL VERTICAL DEPTH	T O T A L RECTANGULAR COORDINATES (FT)		VERTICAL SECTION (FT)	DOGLEG SEVERITY (DEG/100')
MSS	7476.00	7.75	N 29.00 E	30.00	7454.95	209.58 N	143.89 E	249.94	1.24
MSS	7561.00	8.00	N 31.00 E	85.00	7539.15	219.66 N	149.72 E	261.19	.44
MSS	7654.00	7.50	N 30.00 E	93.00	7631.30	230.47 N	156.08 E	273.33	.56
MSS	7745.00	8.00	N 30.00 E	91.00	7721.47	241.09 N	162.22 E	285.19	.55
MSS	7901.00	8.00	N 34.00 E	156.00	7875.95	259.50 N	173.72 E	306.34	.36
MSS	8027.00	8.50	N 37.00 E	126.00	8000.65	274.22 N	184.22 E	324.17	.52
MSS	8090.00	8.00	N 41.00 E	63.00	8062.99	281.24 N	189.91 E	333.15	1.21
MSS	8184.00	7.25	N 45.00 E	94.00	8156.16	290.36 N	198.41 E	345.62	.98
MSS	8279.00	6.75	N 52.00 E	95.00	8250.45	298.03 N	207.08 E	357.17	1.04
MSS	8407.00	6.60	N 51.00 E	128.00	8377.66	306.88 N	218.20 E	371.29	.59
MSS	8524.00	5.25	N 56.00 E	117.00	8494.10	313.70 N	227.42 E	382.62	.77
MSS	8682.00	5.25	N 66.00 E	158.00	8651.43	320.70 N	240.04 E	396.50	.58
MSS	8747.00	5.25	N 61.00 E	65.00	8716.16	323.35 N	245.36 E	402.14	.70
MSS	8810.00	4.75	N 66.00 E	63.00	8778.92	325.60 N	250.28 E	407.35	1.05
MSS	8841.00	5.00	N 70.00 E	31.00	8809.81	326.79 N	252.72 E	409.77	.66